

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A computer program product, tangibly embodied in a computer-readable storage medium, the computer program product comprising instructions operable to cause a client data-processing apparatus to perform operations comprising:

displaying, by the client apparatus, a user interface to a server computer program running on a server, the user interface including a plurality of user interface elements including a first user interface element, the first user interface element having a plurality of attributes;

receiving, from the server, a server-generated change to the first user interface element;

receiving a client-generated change to the first user interface element based on a user input to the client apparatus;

receiving a plurality of additional changes to the first user interface element based on additional user inputs to the client apparatus or additional changes received from the server;

~~detecting, by a client, multiple changes to a user interface of a server computer program, the user interface executing on the client and having multiple user interface elements, each change being a change to one of the multiple user interface elements;~~

generating a server-based rendering request for ~~[[each]]~~ the server-generated change and a client-based rendering request for the client-generated change, the server-based rendering request and client-based rendering request each rendering request specifying the first user interface element that has changed and a type of modification to be performed on the first user interface element; ~~[[and]]~~

generating additional rendering requests for the additional changes to the first user interface element;

categorizing both the server-based rendering request and the client-based rendering request as redundant because both the server-based rendering request and the client-based rendering request identify subsets of the attributes of the first user interface element also identified by the additional rendering requests for the additional changes;

~~filtering, by the client, both the server-based rendering request and the client-based rendering request requests to eliminate the redundant server-based rendering request and the redundant client-based rendering request; and redundant rendering requests, the redundant rendering requests being identical to or a subset of another rendering request~~

rendering the first user input element, the rendering being limited to additional rendering requests and excluding the filtered server-based rendering request and the filtered client-based rendering request.

2. (Original) The product of claim 1, wherein each rendering request is a request to modify a data structure representing the user interface.

3. (Original) The product of claim 2, wherein the data structure is a document object model representation of the user interface.

4. (Currently Amended) The product of claim 1, wherein:
the type of modification is at least one of the additional rendering requests is a request for a complete re-rendering of the user interface element.

5-6. (Canceled)

7. (Currently Amended) A client apparatus comprising:
means for displaying a user interface to a server computer program running on a server, the user interface including a plurality of user interface elements including a first user interface element, the first user interface element having a plurality of attributes;
means for receiving, from the server, a server-generated change to the first user interface element;
means for receiving a client-generated change to the first user interface element based on a user input to the client apparatus;

means for receiving a plurality of additional changes to the first user interface element based on additional user inputs to the client apparatus or additional changes received from the server;

~~means for detecting multiple changes to a user interface of a server computer program, the user interface executing on the client apparatus and having multiple user interface elements, each change being a change to one of the multiple user interface elements;~~

means for generating a server-based rendering request for ~~[[each]]~~ the server-generated change and a client-based rendering request for the client-generated change, the server-based rendering request and client-based rendering request each rendering request specifying the first user interface element ~~that has changed~~ and a type of modification to be performed on the first user interface element;[[and]]

means for generating additional rendering requests for the additional changes to the first user interface element;

means for categorizing both the server-based rendering request and the client-based rendering request as redundant because both the server-based rendering request and the client-based rendering request identify subsets of the attributes of the first user interface element also identified by the additional rendering requests for the additional changes;

means for filtering, ~~by the client apparatus,~~ both the server-based rendering request and the client-based rendering request ~~requests~~ to eliminate the redundant server-based rendering request and the redundant client-based rendering request;

~~redundant rendering requests, the redundant rendering requests being identical to or a subset of another rendering request~~

means for rendering the first user input element, the rendering being limited to additional rendering requests and excluding the filtered server-based rendering request and the filtered client-based rendering request; and

a processor for implementing at least the means for filtering.

8. (Previously Presented) The client apparatus of claim 7, wherein each rendering request is a request to modify a data structure representing the user interface.

9. (Previously Presented) The client apparatus of claim 8, wherein the data structure is a document object model representation of the user interface.

10. (Currently Amended) The client apparatus of claim 7, wherein:
~~the type of modification is~~ at least one of the additional rendering requests is a request for a complete re-rendering of the user interface element.

11-15. (Canceled)

16. (Currently Amended) The computer program product according to claim 1, wherein:

the first user element is a text field, radio button, table, tray, or menu.

17. (Currently Amended) The computer program product according to claim [[5]]
1, wherein at least one of the additional rendering requests, the server-based rendering
request, or the client-based rendering request specifies the attribute specified by the
first rendering request is a color attribute of the first user interface element.

18. (Currently Amended) The computer program product according to claim 1,
wherein ~~each of the~~ first user interface element ~~elements~~ filters its own rendering
requests.

19. (Canceled)

20. (New) The client apparatus according to claim 7, wherein the first user
interface element filters its own rendering requests.

21. (New) A computer-implemented method comprising:
displaying, by a client apparatus, a user interface to a server computer program
running on a server, the user interface including a plurality of user interface elements
including a first user interface element, the first user interface element having a plurality
of attributes;
receiving, from the server, a server-generated change to the first user interface
element;

receiving a client-generated change to the first user interface element based on a user input to the client apparatus;

receiving a plurality of additional changes to the first user interface element based on additional user inputs to the client apparatus or additional changes received from the server;

generating a server-based rendering request for the server-generated change and a client-based rendering request for the client-generated change, the server-based rendering request and client-based rendering request each specifying the first user interface element and a type of modification to be performed on the first user interface element;

generating additional rendering requests for the additional changes to the first user interface element;

categorizing both the server-based rendering request and the client-based rendering request as redundant because both the server-based rendering request and the client-based rendering request identify subsets of the attributes of the first user interface element also identified by the additional rendering requests for the additional changes;

filtering both the server-based rendering request and the client-based rendering request to eliminate the redundant server-based rendering request and the redundant client-based rendering request; and

rendering the first user input element, the rendering being limited to additional rendering requests and excluding the filtered server-based rendering request and the filtered client-based rendering request.

22. (New) The computer-implemented method according to claim 21, wherein each rendering request is a request to modify a data structure representing the user interface.

23. (New) The computer-implemented method according to claim 22, wherein the data structure is a document object model representation of the user interface.

24. (New) The computer-implemented method according to claim 21, wherein at least one of the additional rendering requests is a request for a complete re-rendering of the user interface element.

25. (New) The computer-implemented method according to claim 21, wherein the first user interface element filters its own rendering requests.